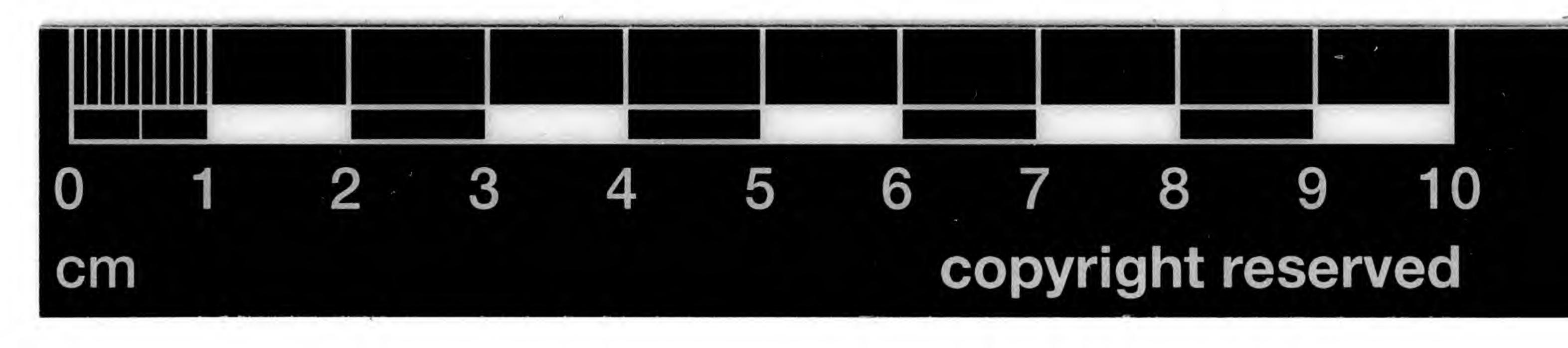
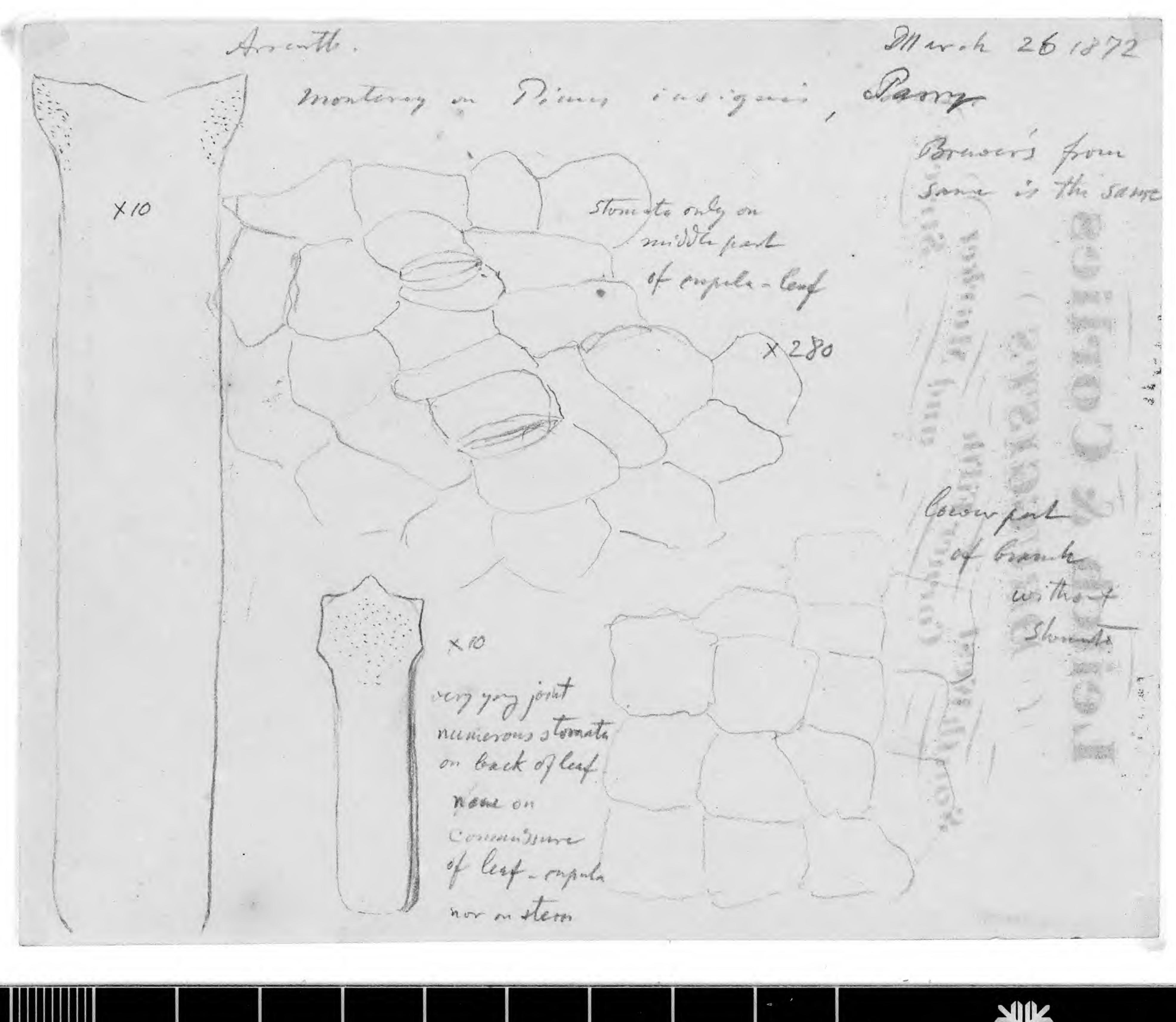


MISSOURI BOTANICAL GARDEN GEORGE ENGELMANN FAPERS

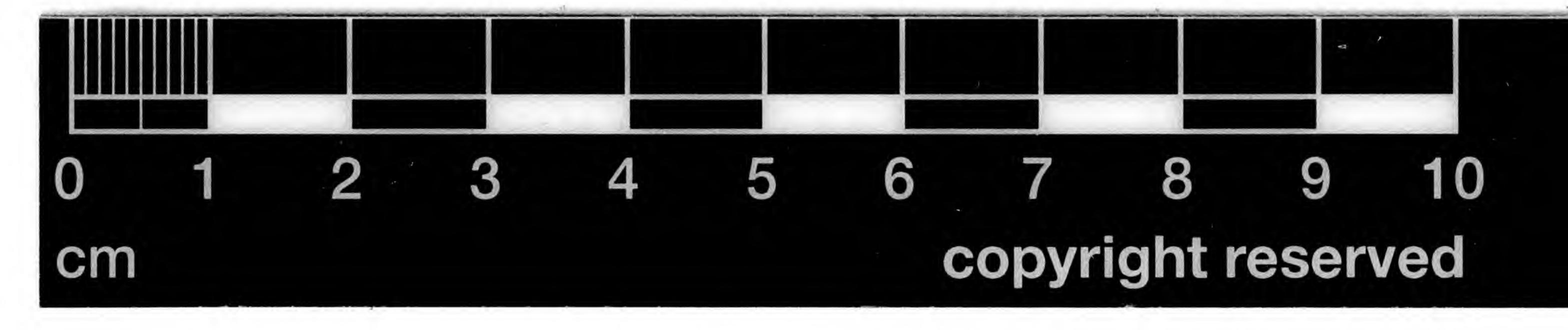




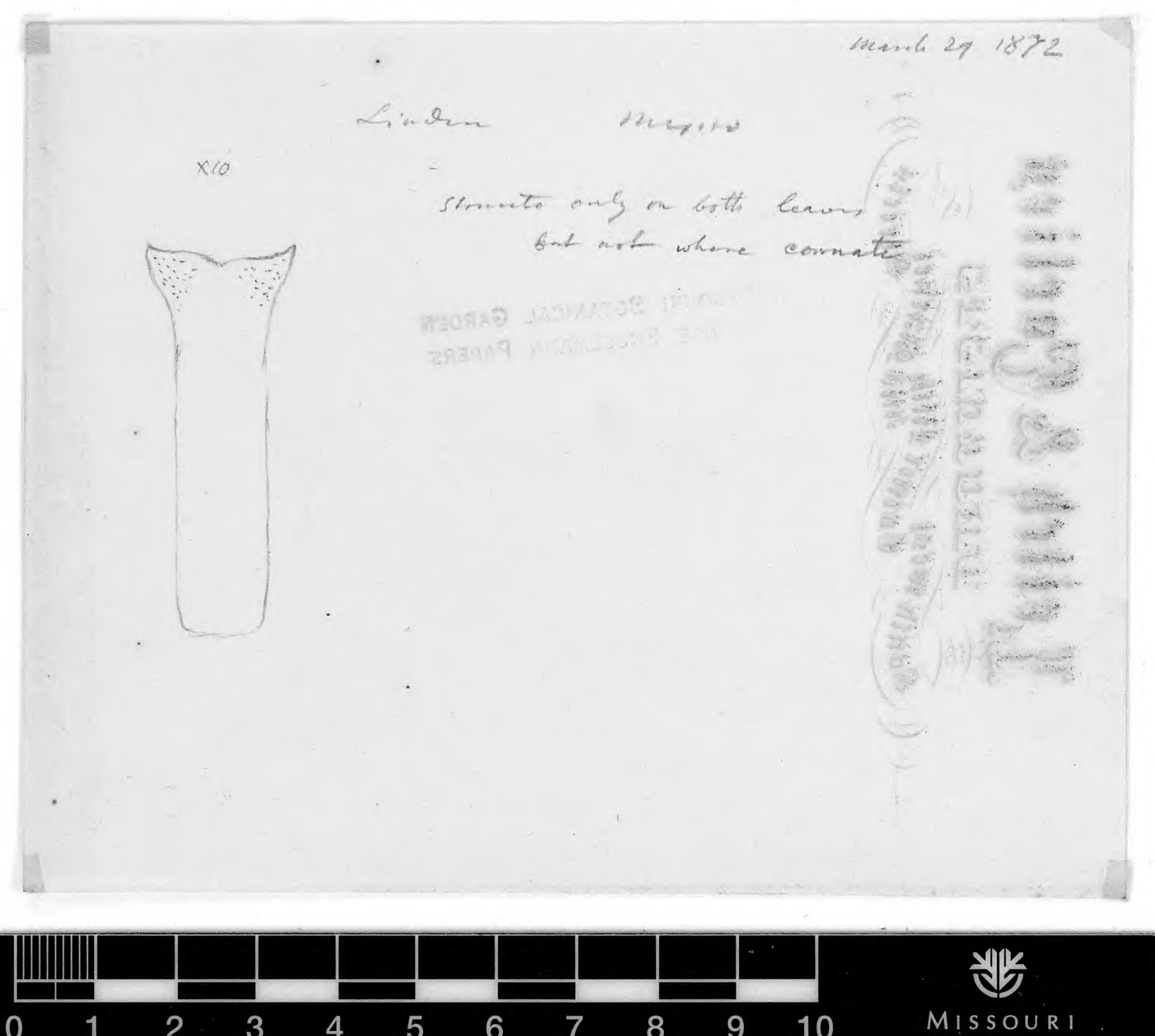




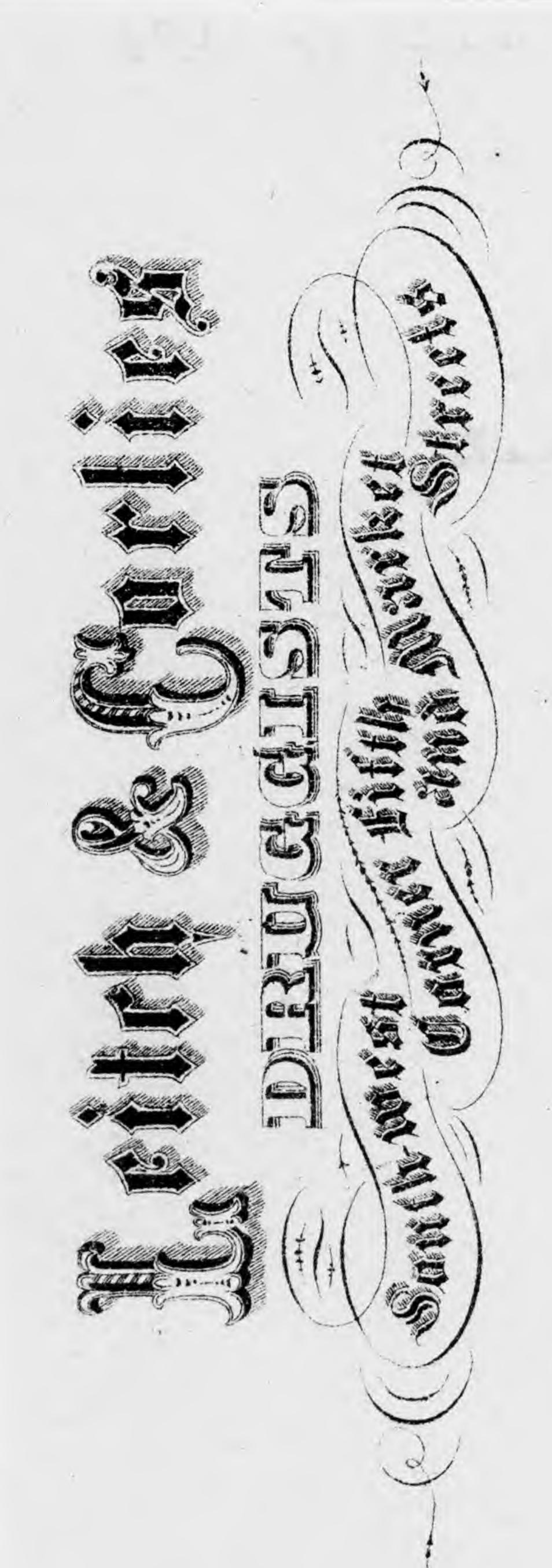


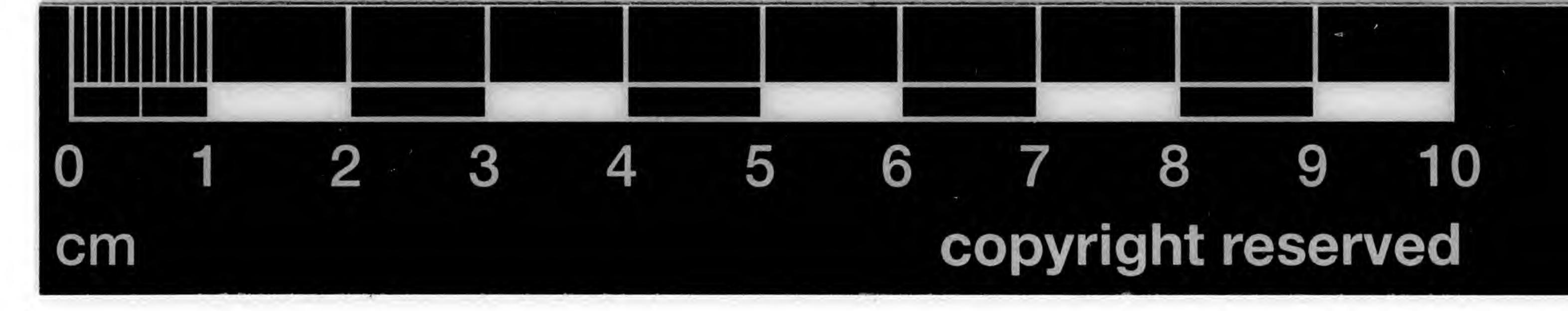






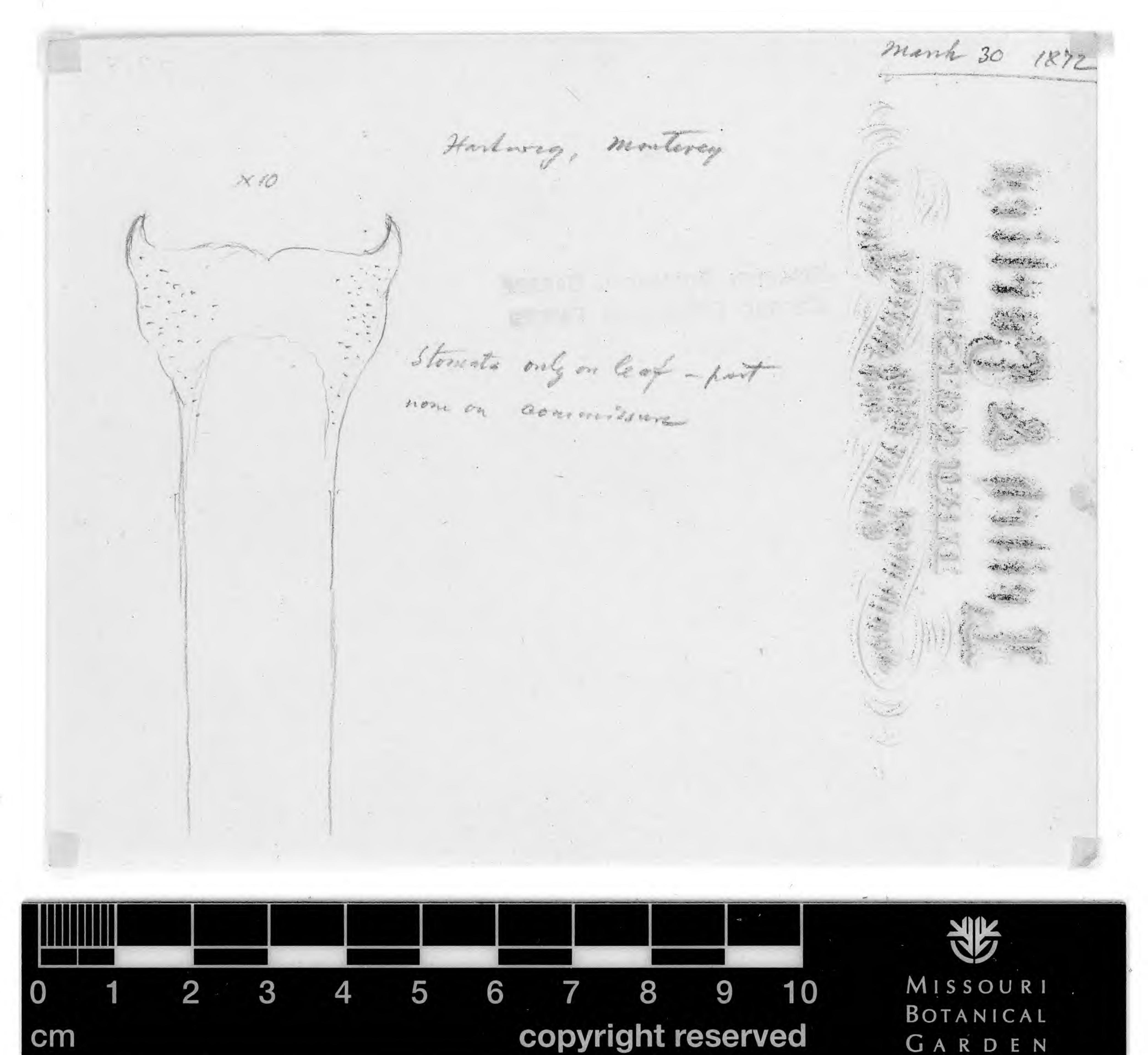
BOTANICAL copyright reserved cm GARDEN

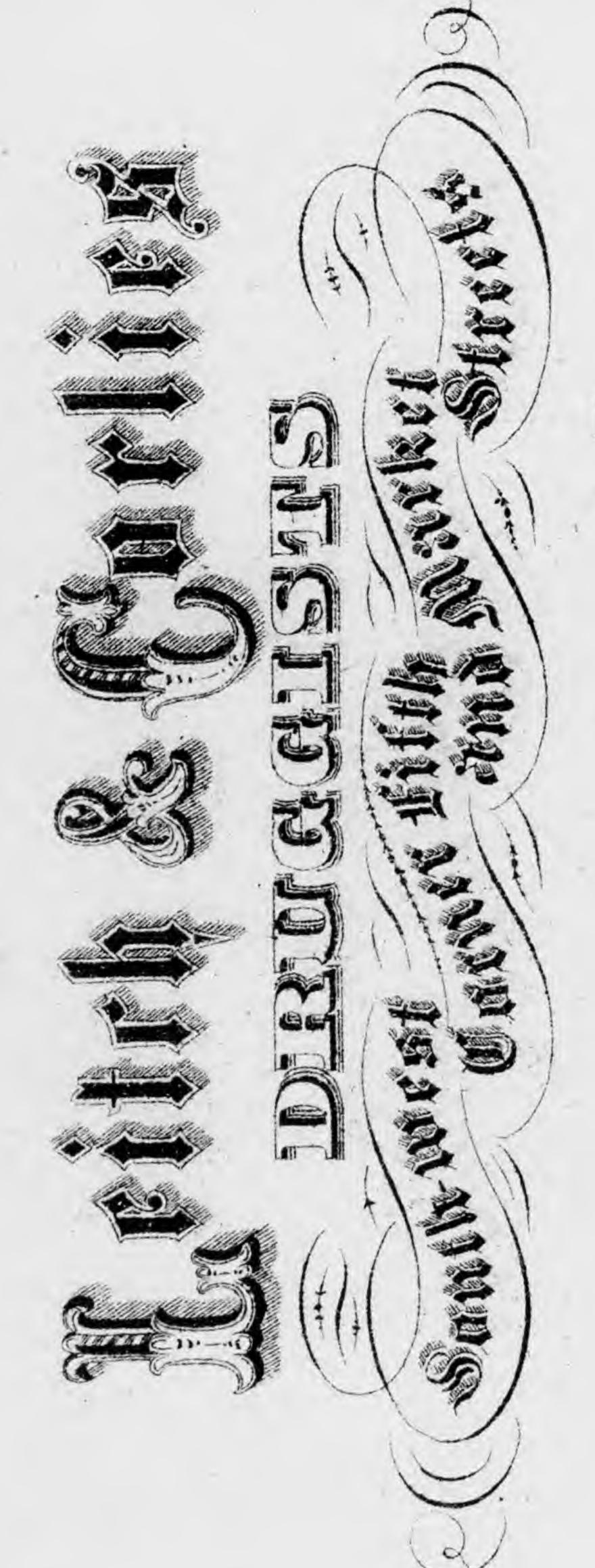






BOTANICAL GARDEN

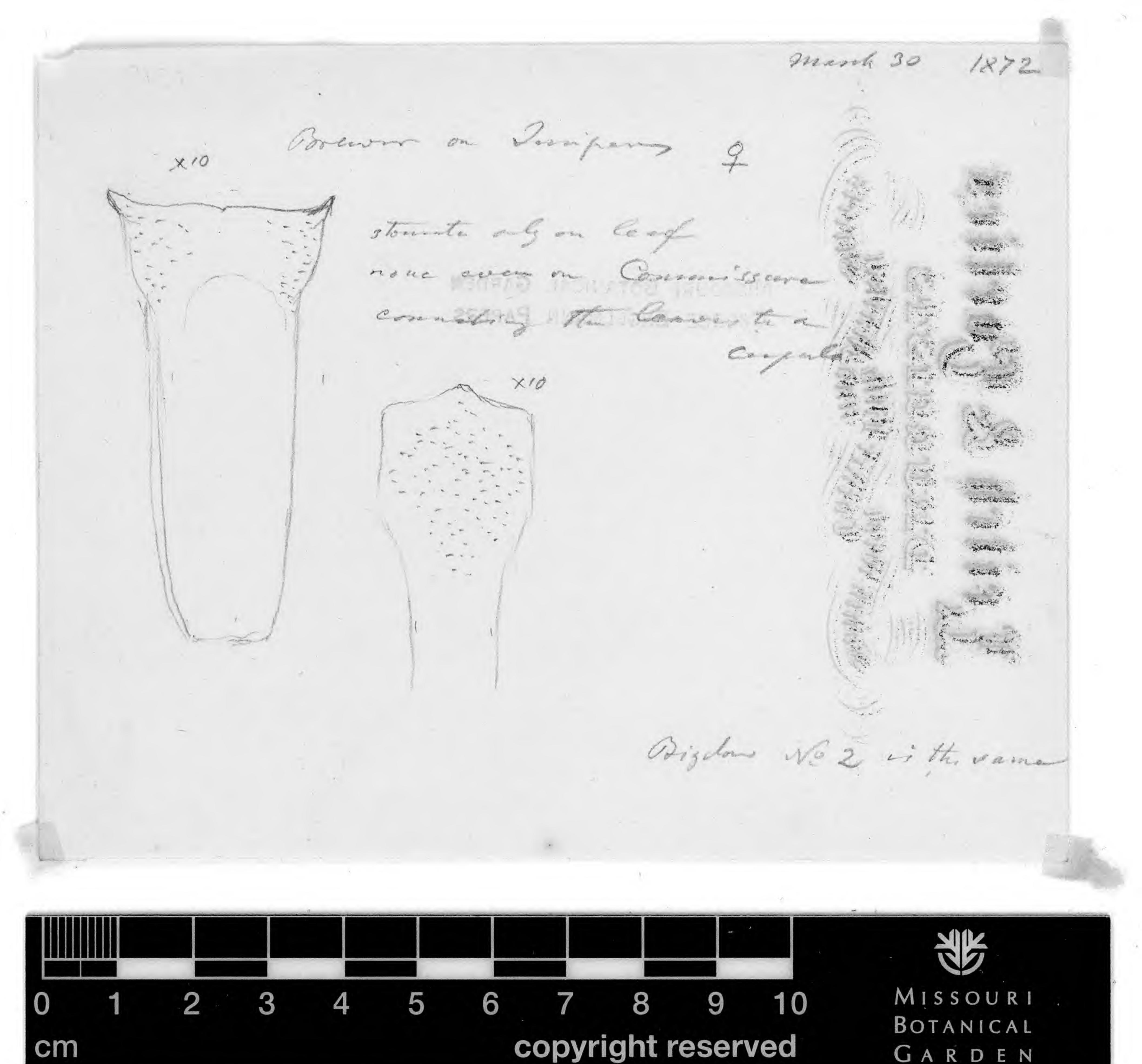




MISSOURI BOTANICAL GARDEN. GEORGE ENGELMANN PARENS

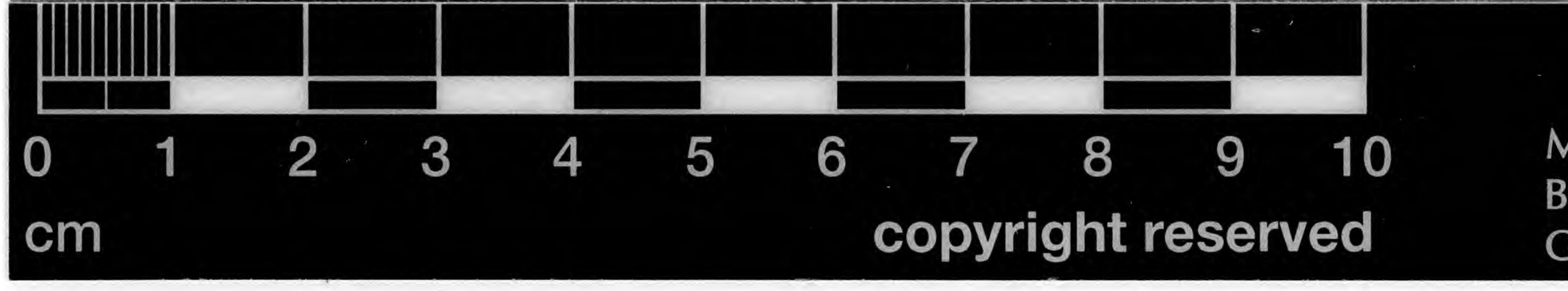


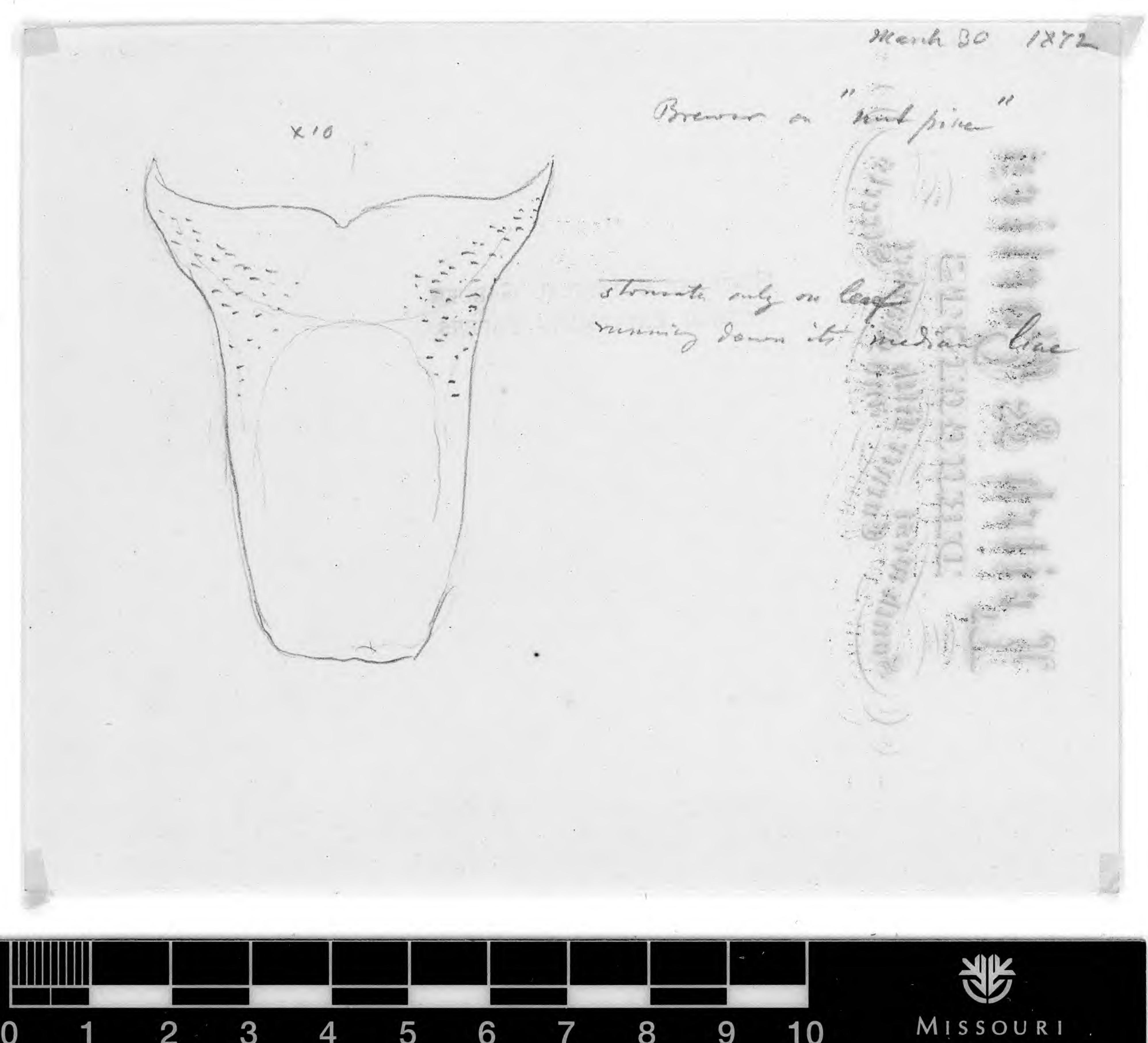




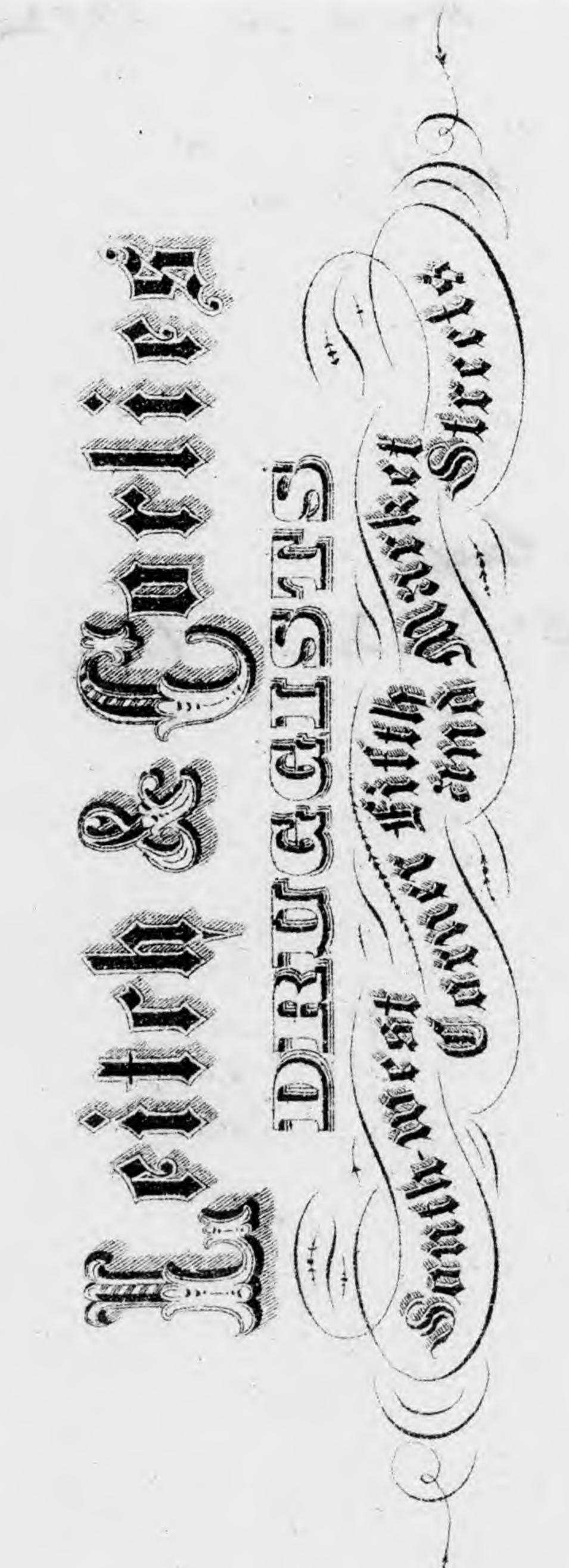


MISSOURI BOTANICAL GARDEN GEORGE ENGELMANN PAPERS

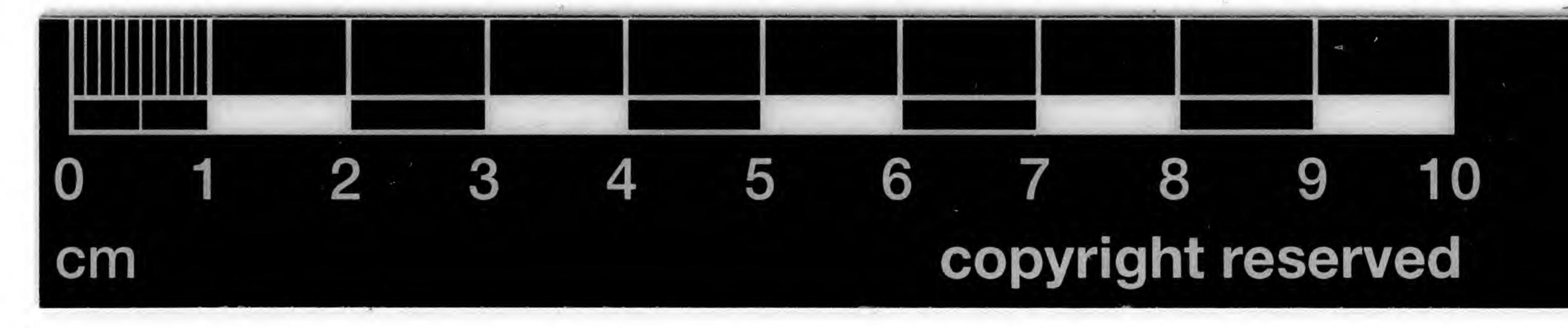




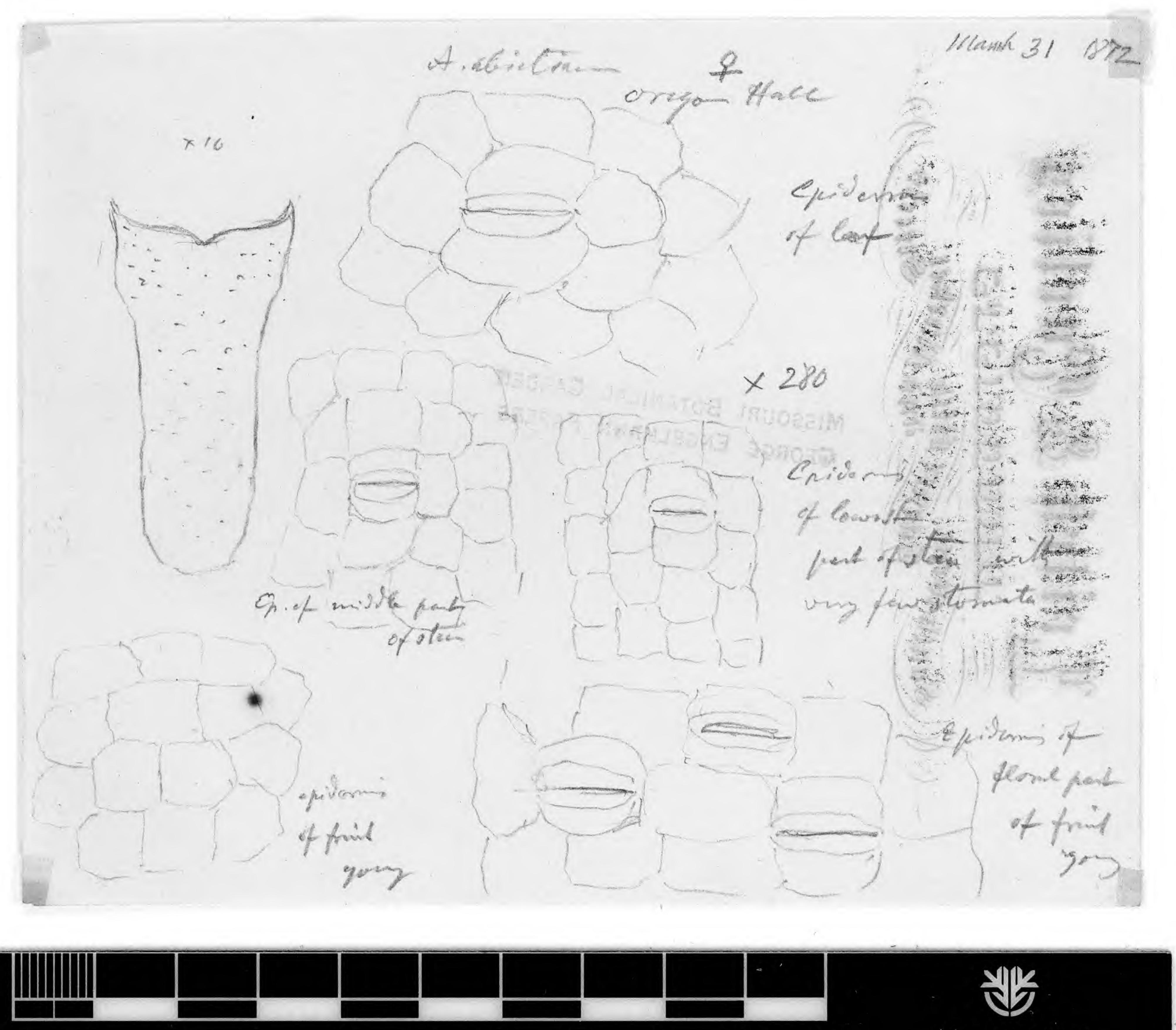
BOTANICAL copyright reserved cm GARDEN



MISSOURI BOTANICAL GARDEN GEORGE ENGELMANN PAPERS

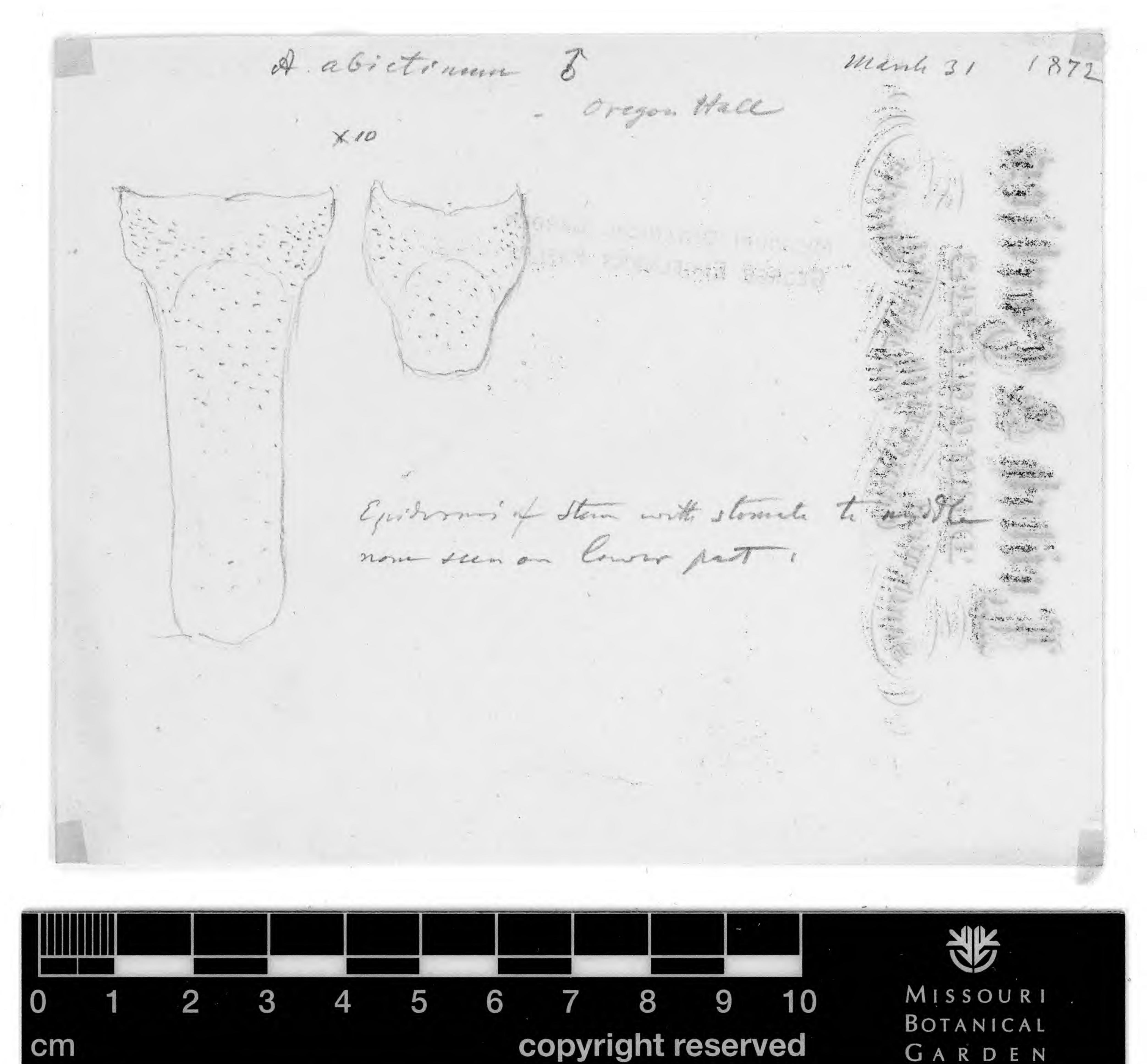






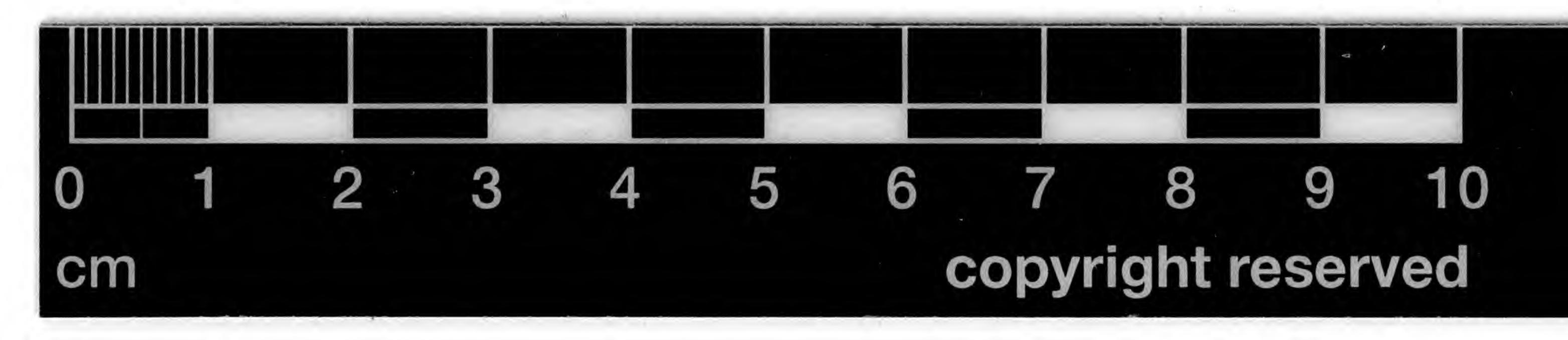




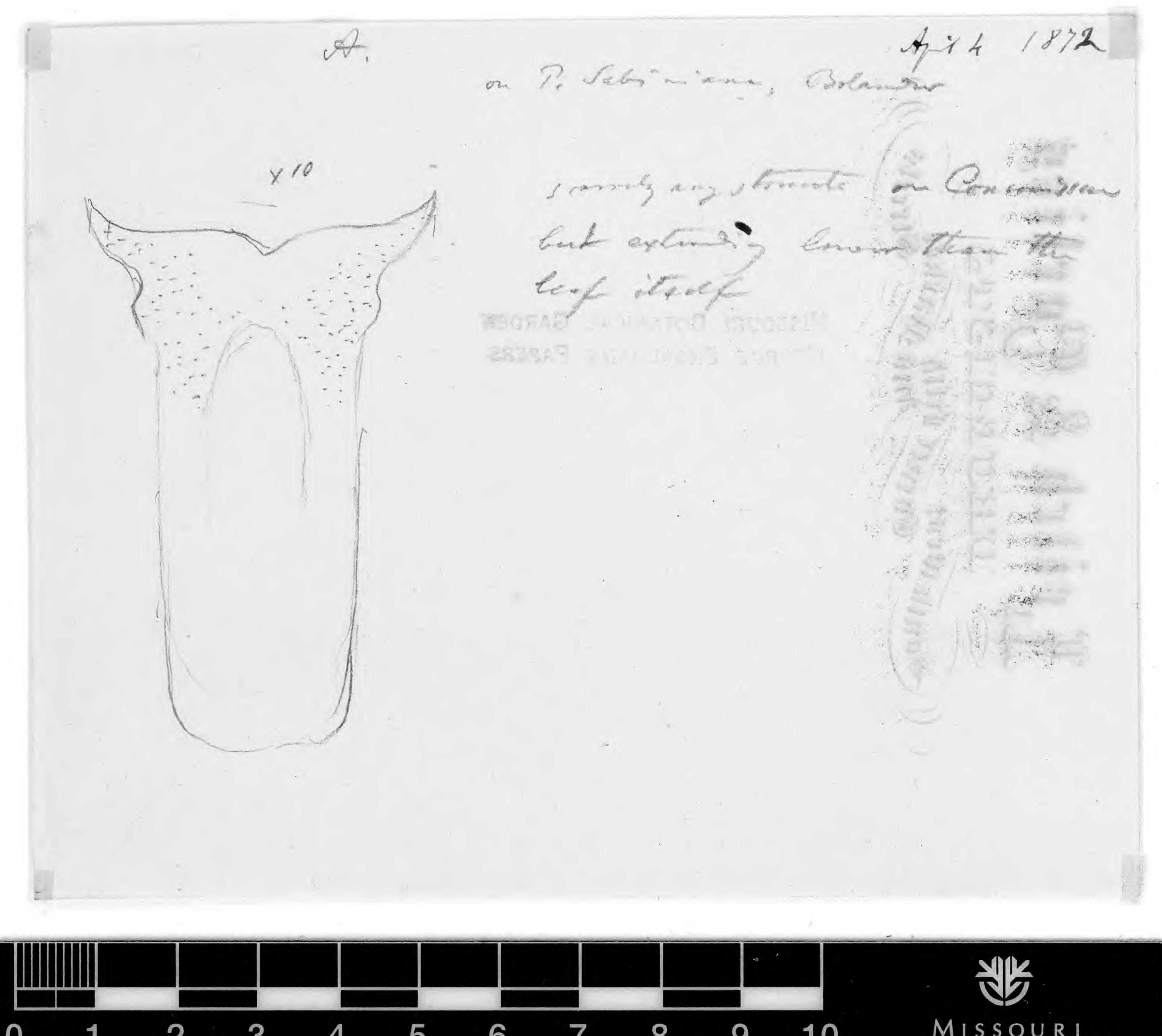




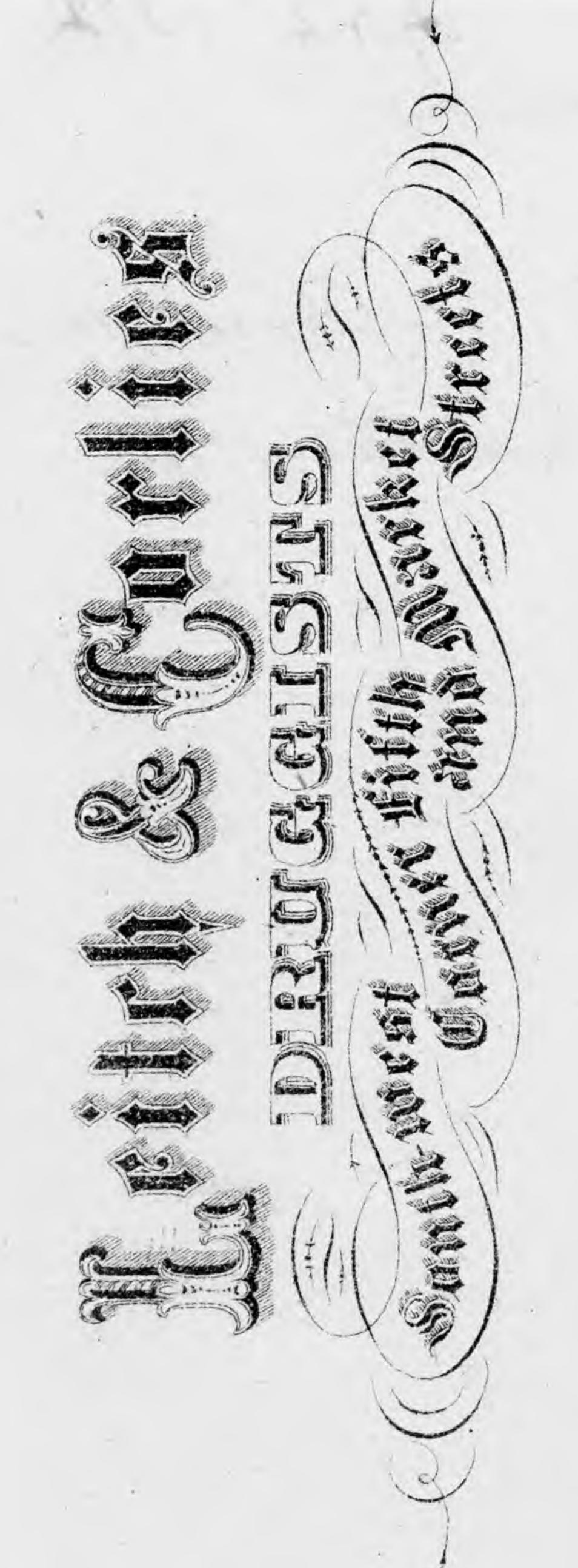
MISSOURI BOTANICAL GARDERS
GEORGE ENGELMANN PAPERS







0 1 2 3 4 5 6 7 8 9 10 cm copyright reserved



MISSOURI BOTANICAL GARDEM GEORGE ENGELMANN PAPERS







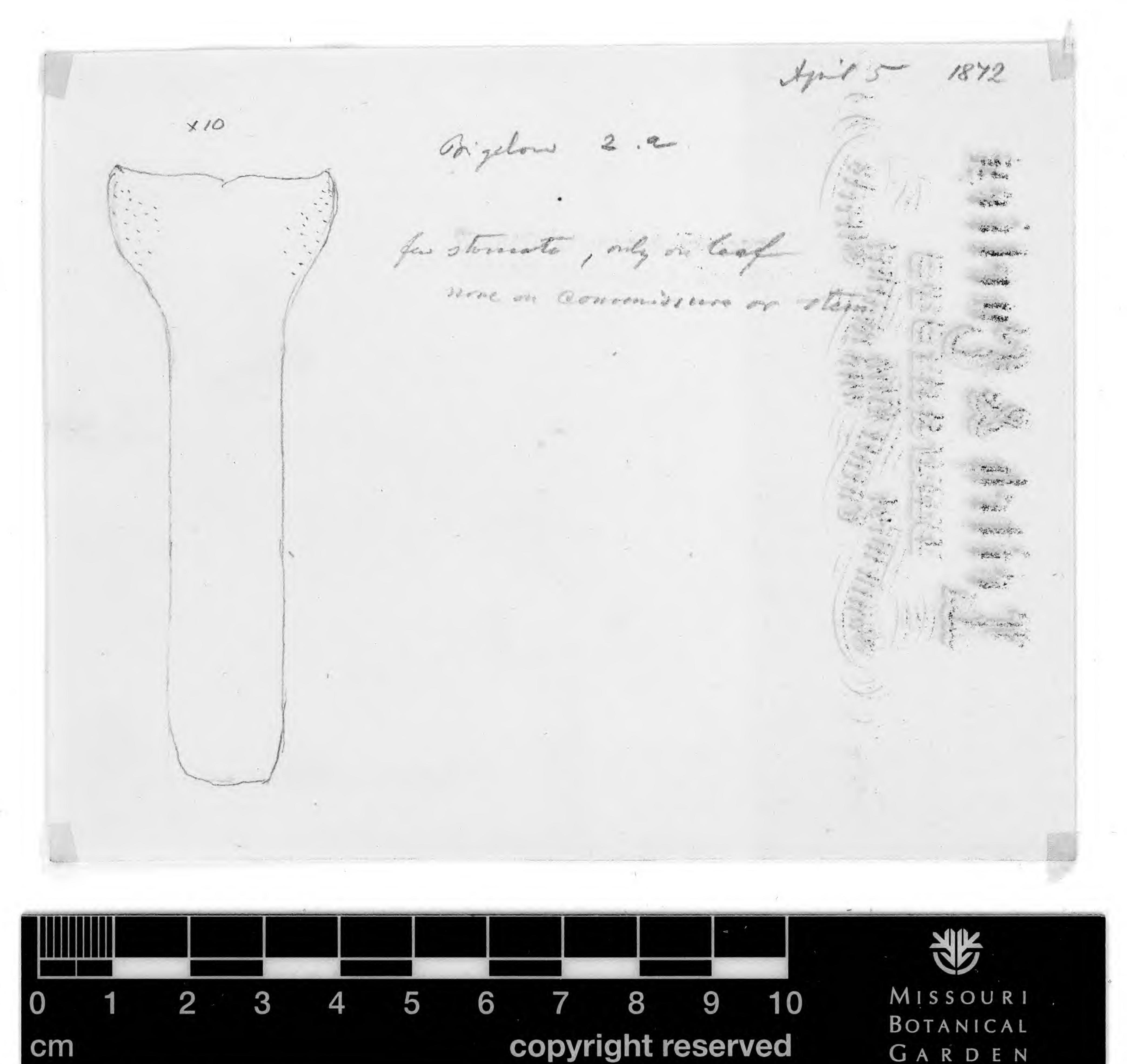




MISSOURI BOTANICAL GARDEN GEORGE ENGELMANN PAPERS





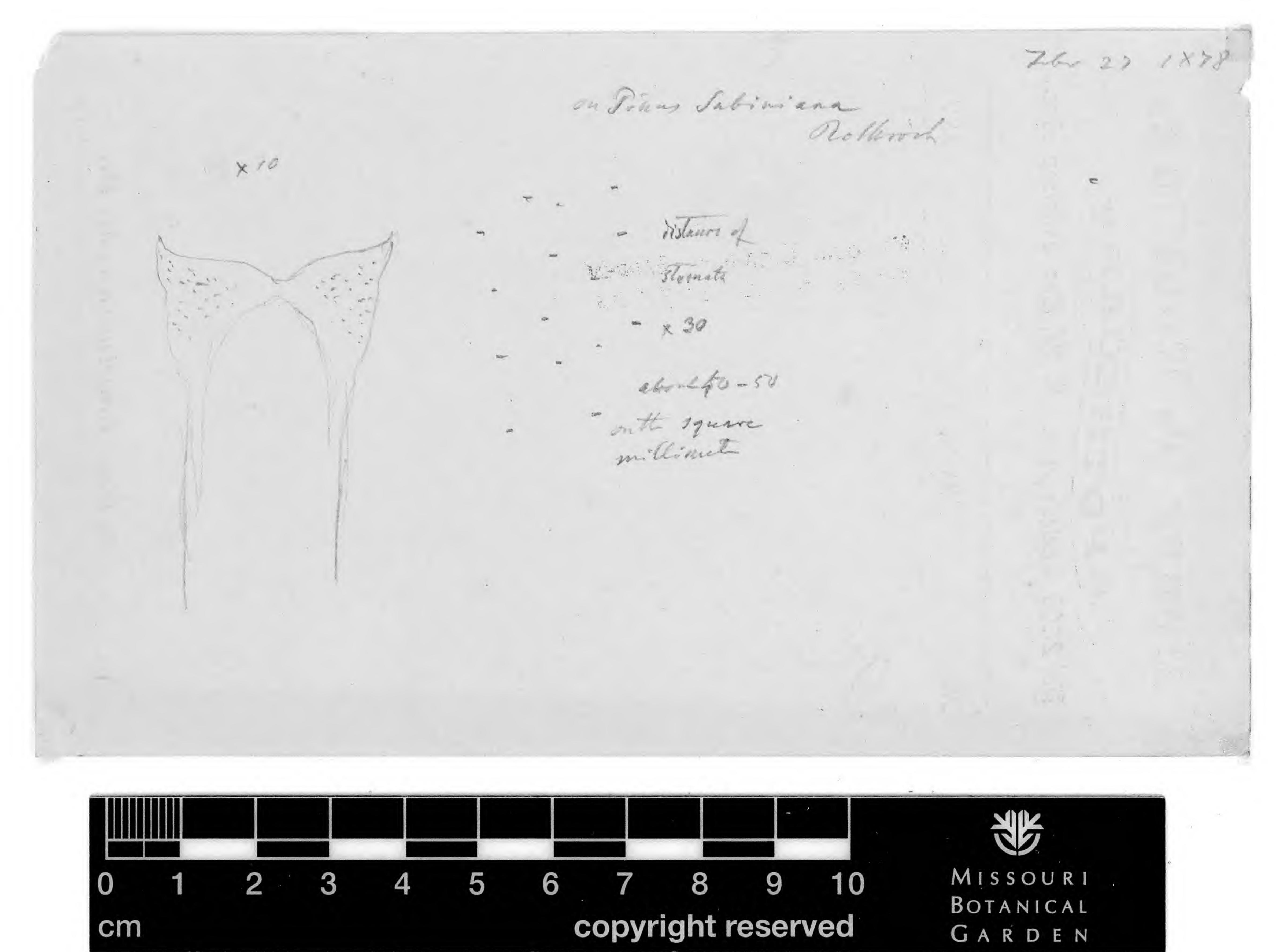


MISSOURI

BOTANICAL

GARDEN

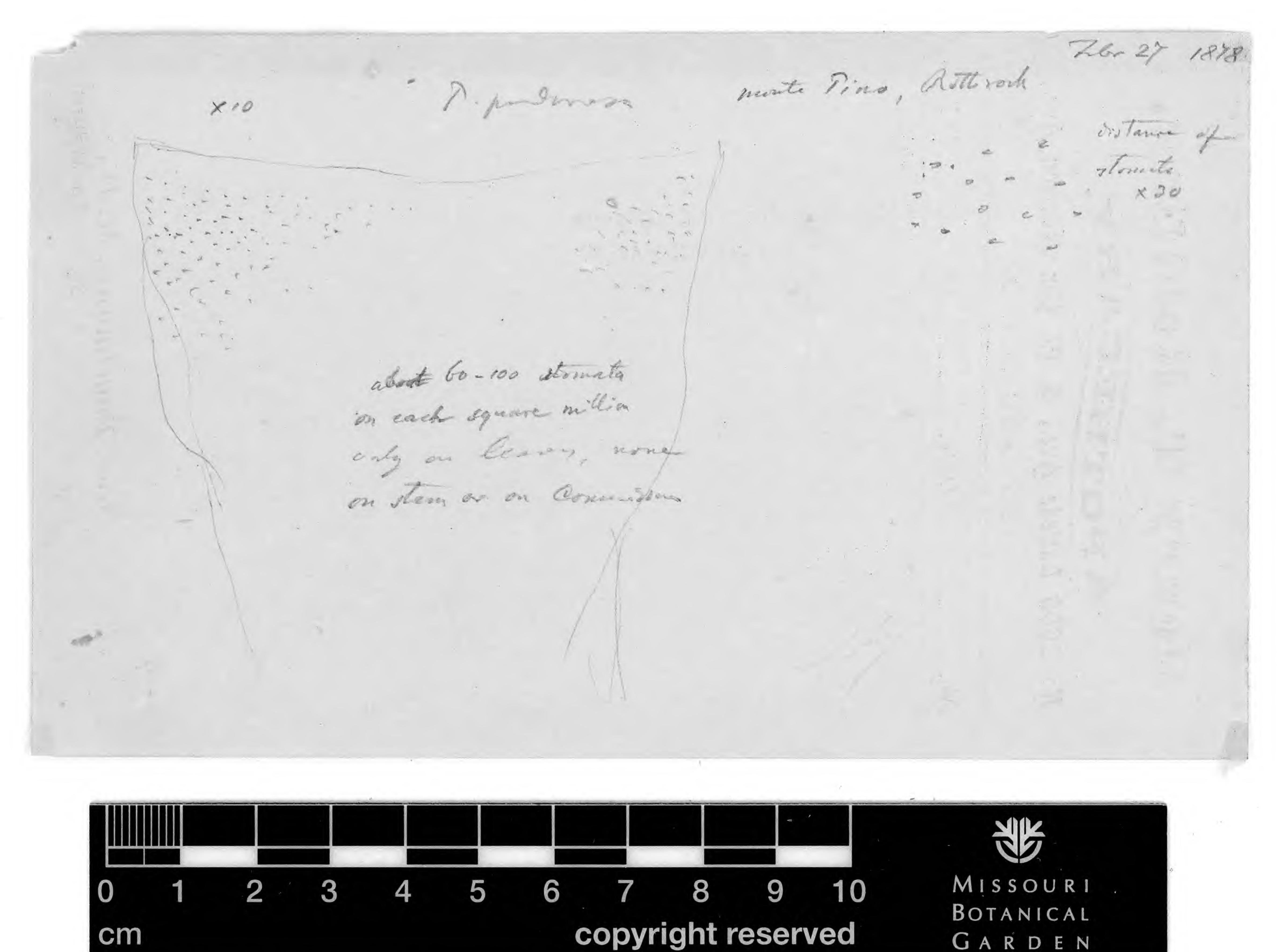




Geo. Engelmann, M. D.,

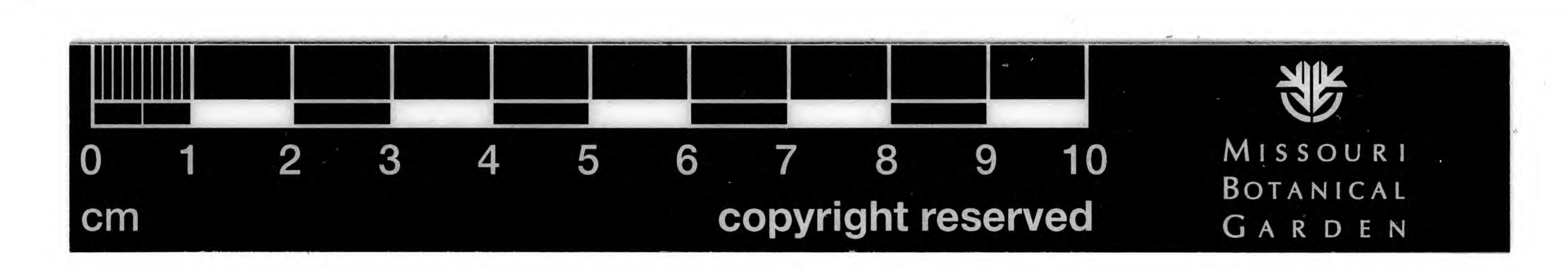
MISSOURI BOTANICAL GARDEN GEORGE ENGELMANN PAPERS

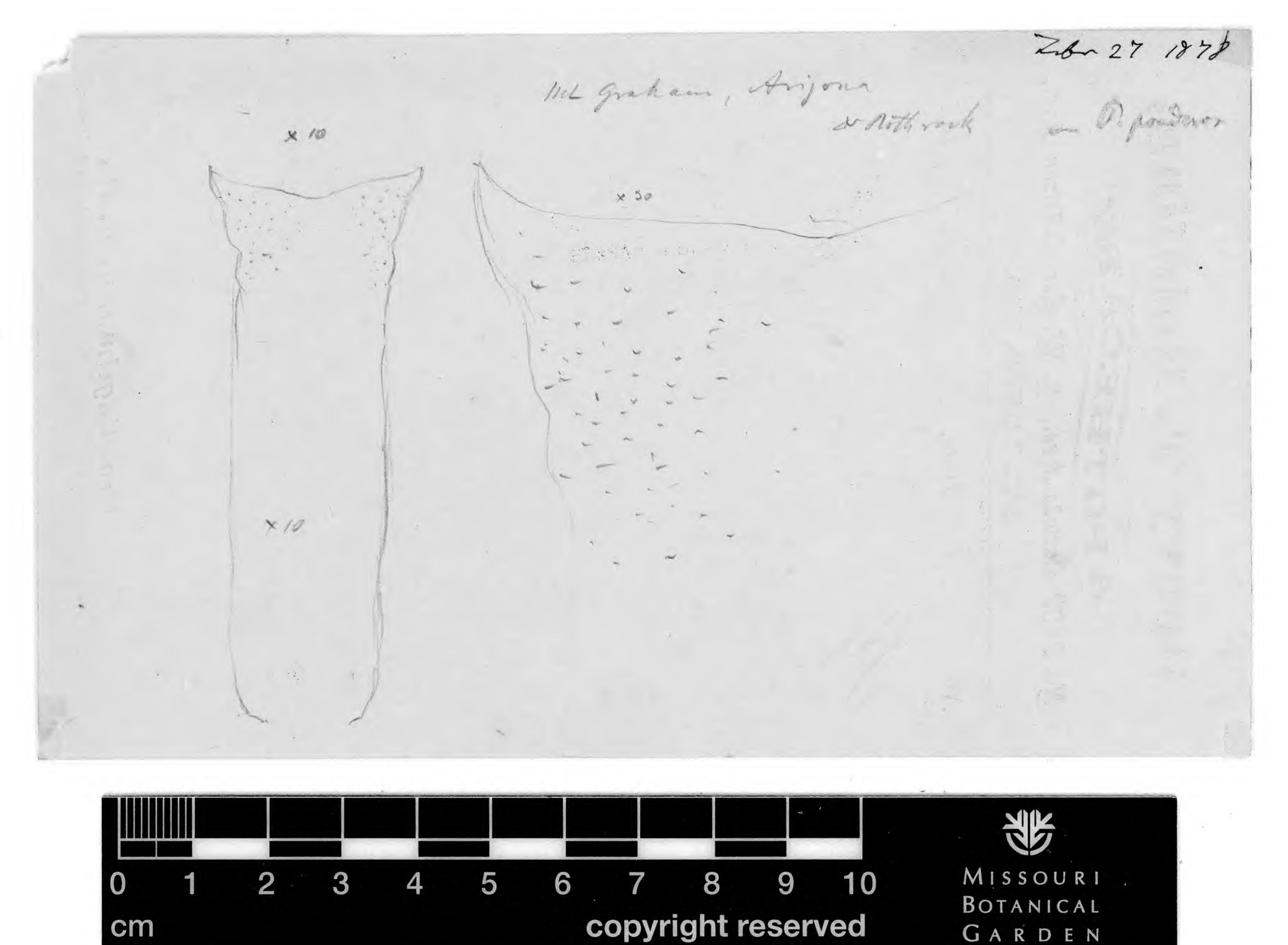




	A V.C.		-
	Jefferson		
	Cor.	O THE	
101			(((((((((((((((((((((((((((((((((((((((
	AVE.,	DOT J	
	Laclede		
	2600		
	Mo.		

MISSOURI BOTANICAL GARDEN GEORGE ENGELMANN PAPERS



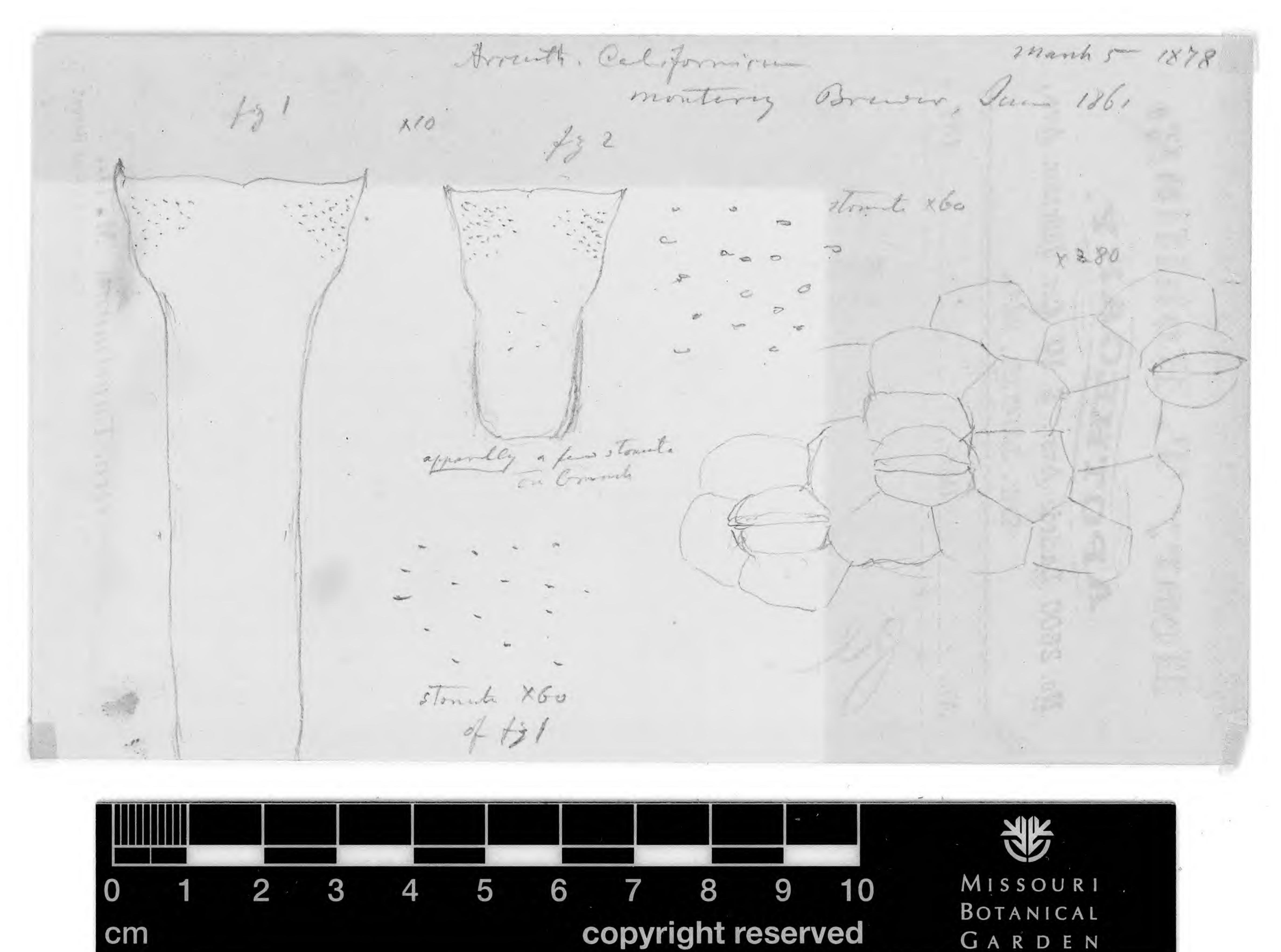


MISSOURI BOTANICAL GARDEN GEORGE ENGELMANN PAPERS

180h





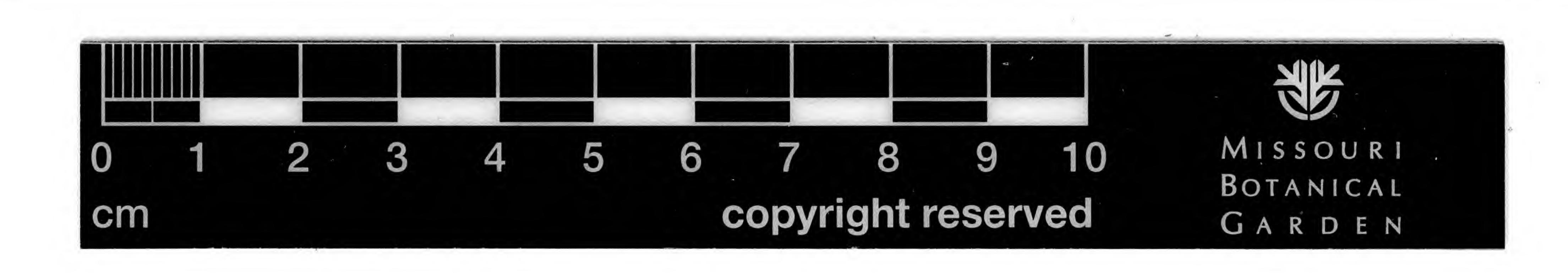


Geo. Engelmann, M. D.,

N

MISSOURI BOTANICAL GARDEN GEORGE ENGELMANN PAPERS

180h



appended: Chas. S. Ayres, M. West, George Channell, Alex. Wood, Jos. E. Ballinger, C. P. Shivers, U. W. Condit, Henry C. Garrison, Chas. D. Lippincott, John F. Musgrave, James Cheatham, W. C. Cluly, Geo. F. Turner, Wm. T. McDanel, Thomas McDonald, Robt. W. Dickson, Henry E. Robertson, John M. Fine, Edward I. Gigham, J. Ashbrook, jr., Ezekiel Pullen, Reuben W. Clark, D. R. Clark.

This memorial was referred to the Committee on Retrenchment, the chairman of which, on the part of the House, Hon. Martin Welker, of Ohio, in reporting adversely to the prayer of the petitioners, took occasion to remark as follows relative to the functions, uses, and expenditures of this Department:

Mr. Speaker: At the last session of Congress a memorial signed by citizens of New Jersey and Pennsylvania, asking the abolition of the Agricultural Department, was referred to the Joint Committee on Retrenchment, of the House part of which I have the honor to be chairman. Supposing the committee will have no opportunity to report upon the memorial at this session, I take this occasion to make some remarks against the prayer of the memorialists.

Desirous as I am to retrench the expenses of the Government in every possible way, fully recognizing the fact that the heavy burdens of the people demand relief from taxation wherever it can be accomplished, yet I believe this Department, in view of the public good, cannot be dispensed with, and that it would not be wise economy to abolish it. I regard it as a very important branch of the public service and entitled to the

liberal support of the Government.

Much of the legislation of Congress has been in the interest of manufactures, finance, and general commerce. Immense Government machinery in the different departments is brought to bear upon these great interests. Until the establishment of the Agricultural Department, the farming and producing interests were almost entirely neglected, or allowed to take care of themselves as best they could under the care of the States. Agriculture is a national interest. The importance of this branch of industry, the great interests to develop, the wide field for improvement, demand the fostering care of the General Government. Our people are an agricultural people. With the most productive lands, every variety of soil and climate, growing the products of almost every land, we have the capacity to develop the greatest agricultural resources of any country of the globe.

This Department is organized in the interest of labor. This interest, as well as capital, must be taken care of by the Government. There is no need of any conflict in this country between labor and capital. They are coworkers; the one cannot dispense with the other, and both must be fostered. Capital is, however, more able to take care of itself than labor. In the old countries of Europe capital is supreme and labor subordinate. Not so in this country. Here it is reversed, and labor is the great foun-

dation of our national prosperity and advancement.

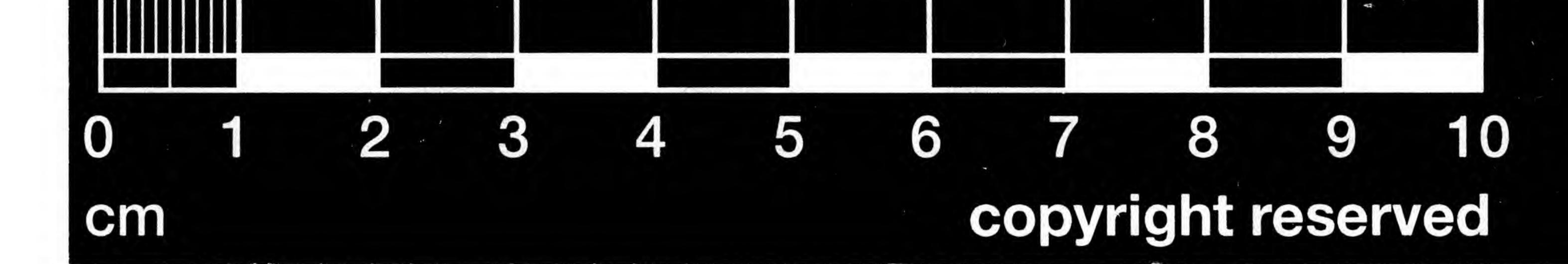
The Department of Agriculture has been established but a short time. It may be considered an off-shoot of the Patent Office. It had its beginning there. Prior to 1838 some attention had been given to agricultural interests in connection with inventions of labor-saving and valuable machinery. In that year Mr. Ellsworth, then Commissioner of Patents, impressed with the importance of the subject, suggested that Government should recognize the claims of agriculture, and give a more definite character and encouragement to the measures he had commenced, on a limited scale, toward collecting statistics, and introducing a few new seeds and plants, and particularly new varieties of wheat. The next year Congress appropriated \$1,000 from the patent fund for this purpose; and with it a few new plants were introduced, and about thirty thousand packages of seed distributed.

These suggestions of the Commissioner induced Congress to make small annual appropriations for several years, and led to the adoption of schedules for the collection of statistics in agriculture, which were used for the first time in the census of 1840, and have been carried out more fully at each census since with increased satisfaction. The Department was organized by act of Congress, May 15, 1862. Its purpose was stated in the law to be "for acquiring and diffusing among the people of the United States useful information on subjects connected with agriculture in the most general and comprehensive sense of that word, and to procure, propagate, and distribute among

the people new and valuable seeds and plants."

In order fully to understand and appreciate the importance of the Department, and its practical and beneficial workings, allow me to call attention to its present organization, and describe the scope and purpose of each of its divisions. From this some correct idea can be formed of the great advantages the country will derive from its fostering care by legislation of the General Government. As now organized, it comprises several divisions:

3





1. DIVISION OF STATISTICS.

This is the office of publication, whence are issued the annual reports of the Department of nearly a quarter of a million copies and a monthly report of twenty-five thousand copies, embracing official data from thousands of correspondents located in nearly every county in the Union, regarding the modes of cultivation and prospects of crops. These reports, annual as well as monthly, are the most popular and most desired of any of the public documents printed by the Government. They are sought for and distributed by the foreign legations resident in this country to all the European Governments. A much larger number of the annual report should be printed for circulation among our people, as now half the demand for them cannot be supplied by members of Congress or the Department.

2. DIVISION OF AGRICULTURAL CHEMISTRY.

1. This division affords a medium of correspondence and information between the various agricultural societies and farmers; answering queries on samples forwarded, as ores, minerals, waters; making chemical examinations of natural products and fertilizers, as marls, peats, &c., and giving advice upon the same. Many hundreds of letters are answered every year on these subjects.

2. It is a means through which any new vegetable products, valuable through their chemical constitution, may be examined and brought before public notice as worthy of

growth in the States.

3. It is a means whereby large and useful manufactures not existing in this country may be brought under the notice of farmers. In this way the growth of the beet for sugar has been recommended, and is becoming adopted. Comparatively few experiments in its growth had been tried before the Department entered on the consideration

of the subject.

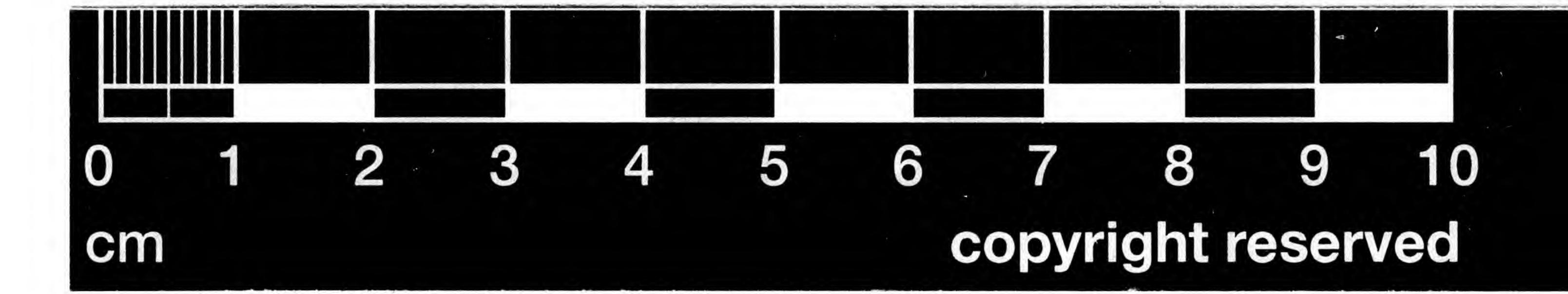
4. By its means chemical examinations of the value and composition of vegetable products grown for food in the United States may be conducted on that scale which, embracing the area of the whole country, will lead to more valuable and truthful results than those undertaken by a single State or institution not possessing the extensive communication and correspondence which the Department has. Of this nature is the determination of the nutritive value of cereals grown in the several States, which has just been commenced, and which no doubt will yield valuable results.

3. DIVISION OF BOTANY.

The purpose of this division is to give a scientific basis, derived from an accurate knowledge of the ascertained laws of vegetable growth, on which alone any successful system of progressive agriculture can be founded. This is being accomplished in this division by bringing together as far as possible all the varied forms of plants, either in a living state or in the preserved form of herbarium specimens. These are so arranged that any particular plant or class of plants can be readily found, and the relation to allied plants, whether as to uses or capacity for cultivation, can be ascertained with the least labor. By this arrangement, in connection with works of reference giving full accounts of habit, mode of growth, native location, geographical distribution, changes by cultivation, and uses either for food, medicine, or in the arts, there will be accumulated a fund of reliable information, exceedingly valuable in directing culture or indicating sources of supplies of desired materials in medicine or the arts. It is intended by this division to secure the active coöperation of all working botanists in this country and abroad, by a proper system of correspondence and exchange, and thus to furnish valuable information on the progress of botanical research in its direct relation to horticulture and agriculture.

4. DIVISION OF NATURAL HISTORY.

The principal feature of this division is the museum of natural history. This is an economic collection, exhibiting the process of manufacture of the raw products of agricultural industry, in which the textile arts, the making of sugars and dyes, and the utilization and extension of the primitive products of the earth are illustrated; also illustrations of the various transformations of insects, both favorable and inimical to vegetation. In this museum are models of the various fruits and specimens of grain, &c., of this country. They are intended to represent type specimens of such varieties, and to show which kinds are particularly adapted to any particular region, climate, or soil. It is intended to represent each State by sections of cases, containing the different varieties of fruits, grains, &c., that have been recommended by State boards of agriculture as especially adapted for culture in their particular States, thus saving years of labor and probable loss to the new settler by exhibiting at one view those varieties which have been experimented upon and found to succeed the best. Duplicate collec-





No. 38.—The frame of this instrument consists of two parts, the upper part with the uprights revolving upon the lower, to which it can be firmly clamped if used as a Transit. When used as a Zenith instrument, the clamp-screws are removed; stops and tangent-screw motion for turning it exactly 180° around are provided. When desired, two verniers and scale are attached to the upper and lower base. The telescope has a clear aperture of $2\frac{1}{2}$ inches, and about 28 inches focal length. It is provided with micrometric eye-piece; two setting-circles, divided on silver, and reading to minutes, are attached to the telescope-tube near the eye-end; one of these carries the delicate Zenith level, which reads to single seconds and is chambered, in addition to the ordinary finding level. The clamp is of the improved Davidson pattern, and has this advantage over the old form: that, in being open on top, it has not to be carried around with the telescope when reversing it. The pivots are of phosphor bronze, and finished with the utmost care; bearings are agate. The illumination is effected through the pivots; the striding level is chambered, and reads to single seconds. A Ramsden eye-piece, diagonal eye-piece, with pancratic draw, two illuminating and one reading lamp, are provided. The stand folds and is packed in box with the telescope. Price,

No. 39.—The same, with solid frame, not revolving, but with addition of reversing apparatus, in other respects similar to No. 38

850.00



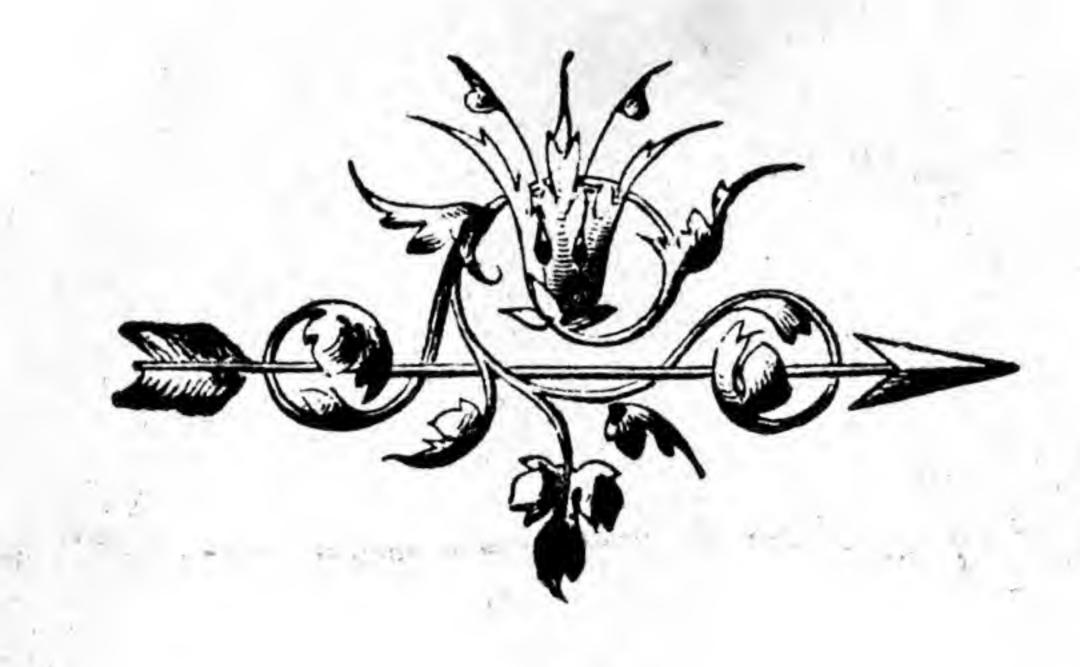
Vhristalder enclosed sheets 38-140.

FAUTH & CO., WASHINGTON, D.C.

No. 40.

0 1 2 3 4 5 6 7 8 9 10 cm copyright reserved

a prismatic arrangement, the verniers are read off at one place; the circle is entirely free of clamps; a striding level, reading to two seconds, is provided. Price of this instru-No. 52.—The same, without the prismatic arrangement for reading off the vernier, three reading-glasses with shades being provided, packed complete...... 450.00 No. 53.—Ten-inch Theodolite; non-repeating, but allowing circle to be shifted for position, with two verniers reading to five or ten seconds. The telescope has a clear aperture of 13 inches and 16 inches focus; a delicate striding level is No. 54.—Eight-inch Repeating Theodolite, similar to cut or No. 51; two verniers reading to five or ten seconds; telescope $1\frac{1}{2}$ -inch aperture, 15 inches focus, with delicate striding level over telescope axis; packed complete..... Note.—If the instrument is to read to 5 seconds instead of 10, the cost will be \$25.00 additional. The circles can be provided with cover for protection of graduation, which will increase the price \$10.00. Strong double leg tripod for any of the foregoing Theodolites...



0 1 2 3 4 5 6 7 8 9 10 cm copyright reserved

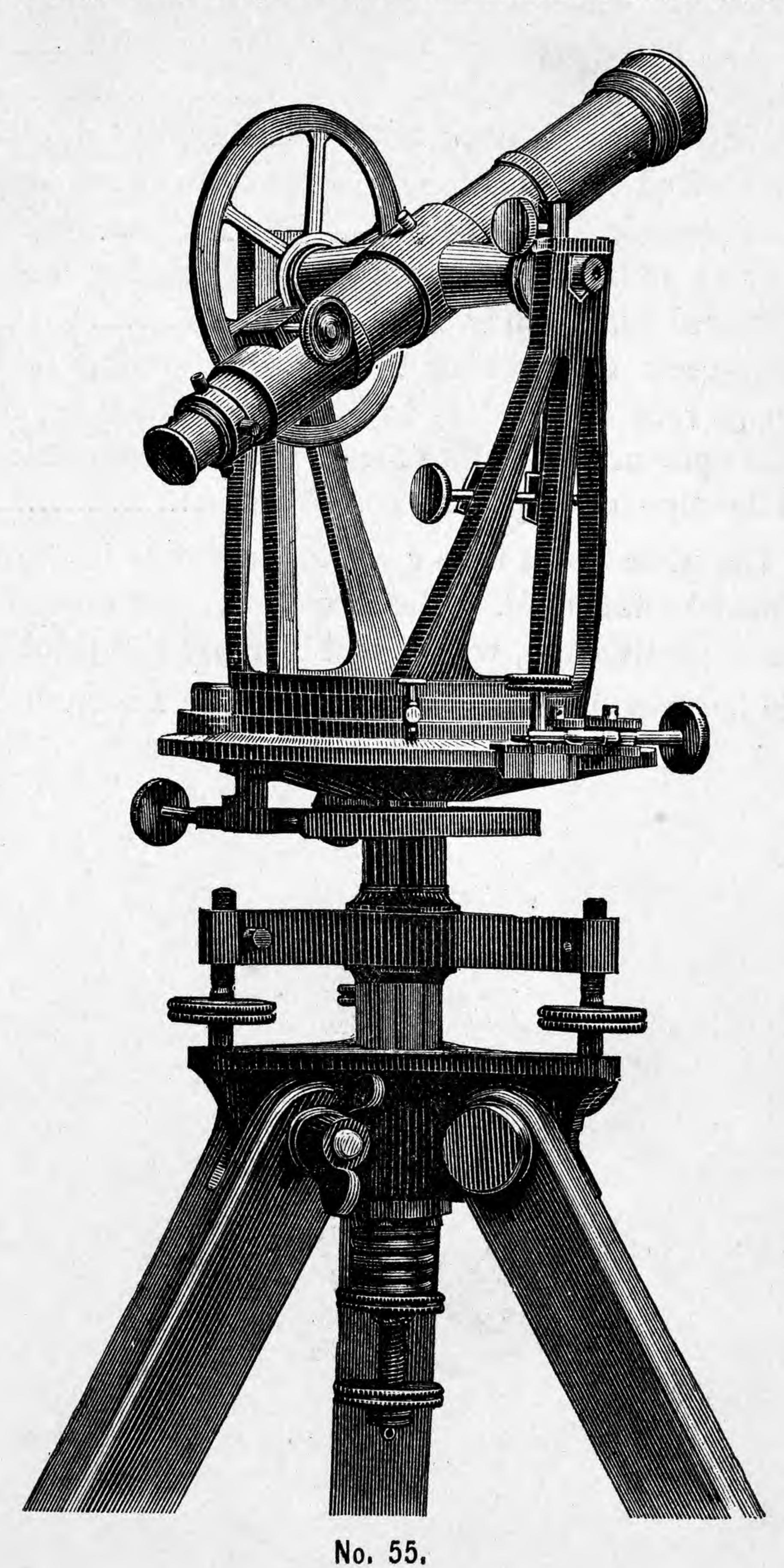
MISSOURI BOTAIN
GEORGE ENGELMANN PAPERS

28

FAUTH & CO., WASHINGTON, D. C.

SMALLER THEODOLITES,

Comprising Transit Theodolites, Engineers' and Surveyors' Transits, Mining Transits, and Reconnoissance Instruments.



No. 55.—Six-inch Transit Theodolite and Leveling Instrument of superior construction. The cut does not fairly represent the instrument, as the level over telescope and the striding level over axis are omitted. The horizontal circle is 6\frac{3}{4} inches in diameter, divided on silver, and reads by two verniers to ten seconds; the vertical circle is four inches in diameter and reads to thirty seconds.